

SRA Enhanced Programme 2018-19

Title	Outline of Scheme/Activity/Action	Beneficiary of action	Enabling Yes/No	Additional £s or new work	Objectives, Outcome & Benefits
Land Management and Natural Flood Management to Slow the Flow	<p>1. Design and implementation of small-scale and natural flood management capital works to detain water in the upper catchment and reduce peak flows.</p> <p>2. Increase uptake of soil management techniques and cropping changes which improve the infiltration of water and reduce run-off – 75 farms.</p> <p>3. Respond to 50 highway flooding and Lead Local Flood Authority (LLFA) referrals and flooding hotspots where land management can help provide a solution.</p> <p>Geographic priorities:</p> <ul style="list-style-type: none"> • Targeted approach to Somerset Frome upstream of Frome • Areas in South Somerset, Sedgemoor, Taunton Deane and West Somerset that have the greatest soil degradation/run-off problems 	County	No	New work	<p>Objectives:</p> <ul style="list-style-type: none"> • To reduce the depth and duration of flood events in Somerset • To reduce local flash flooding in the upper and mid catchment areas • To reduce the flood risk in the lower catchment • To reduce sediment loading in dredged profiles <p>Outcomes:</p> <p>Reduced soil loss and water flow from the upper catchment Delay to flood peaks in sub-catchments Fewer local flooding incidents</p> <p>Benefits:</p> <ul style="list-style-type: none"> • Reduced soil loss in the upper catchment should reduce the need for de-silting in the lower catchment • Beneficial land management works will decrease rates of overland flow that result in local flooding • Increasing infiltration and reduce water run-off will reduce flow levels, thereby reducing the need for pumping to remove water on the Levels
Parrett and Tone maintenance dredging	Carrying out ongoing maintenance of those lengths of river once pioneer dredging has been completed. To cover Tone from Hook Bridge to confluence; Parrett from Burrowbridge to 750m downstream of Northmoor Pumping Station. Assumes the use of water injection dredging remains acceptable.	SDC/TDBC/SSDC	No	New work	<p>Objective: - To maintain the conveyance capability of the rivers as close as practicable to that achieved by pioneer dredging</p> <p>Outcome: - Monitoring data of silt movement within the river channel, dredging of accumulated silt</p> <p>Benefit: - Regular maintenance of dredged profiles will maintain the improved standard of flood risk to approx 1,300 houses, businesses and approx 7,500 hectares of land achieved by the pioneer dredge and avoid the need for future expensive capital dredging</p>
Taunton Strategic Flood Alleviation Improvements Scheme	Phase 2 is a detailed options appraisal to determine the strategic flood risk solution for Taunton. The appraisal will continue the work undertaken by Jeremy Benn Associates (JBA) on behalf of TDBC from their "Phase 1 study "Taunton Strategic Flood Risk Management Options Study" which identified three potential key locations/elements that can contribute to this objective.	TDBC	Yes	New work	<p>Taunton urgently needs strategic flood alleviation improvements. Phase 2 work in 2017-18 involved the detailed appraisal of single options for the detention reservoir and defence walls in the town centre. The outcome of this work has resulted in the commencement of combined analysis work which will be undertaken in 2018-19 to establish preferred options ahead of public consultation, leading to an outline design and full planning permission. The whole scheme is a crucial component of the pioneering Taunton Garden Town initiative. It will allow planned development – approximately 4,350 new homes and nearly 10,000 new jobs – to be safely brought forward. It will mitigate the effects of climate change. Without such a scheme, existing properties and business premises will face unacceptable levels of flood risk and associated human and economic consequences. Funding from the SRA is essential as part of a wider package supported by an Environment Agency/Taunton Deane Borough Council partnership. It will help to deliver an oven-ready scheme, for which major capital funding is still required, bids for which will continue to be submitted.</p>
Countywide Enhanced Drain Jetting	To ensure drainage systems at known flood susceptible sites are fully operational by proactive jetting of sites.	County	No	Extra £s	In conjunction with the enhanced programme of gully emptying, the cleaning of highway drains from road gullies to outfall alleviates the annoying and inconvenient problems of flooding on local roads. It keeps roads open, makes them safer, preserves access for communities, and safeguards properties from flooding. Extra SRA-funded drain jetting began in 2016-17 and will enable the highest risk drains to be jetted proactively as opposed to only when a problem occurs.
Countywide Enhanced Gully Emptying	The highest priority gullies are cleansed annually by SCC. The SRA funding will support an enhanced cleansing regime by mechanically cleansing the 21,263 high risk gullies an extra time each year.	County	No	Extra £s	This enhanced programme of gully emptying targets locations most susceptible to flooding. It is designed to mitigate high-risk areas (the top 20%, meaning 21,263 gullies) and to alleviate the annoying and inconvenient problems of flooding on local roads. It keeps roads open, makes them safer, preserves access for communities, and safeguards properties from flooding. Extra SRA-funded gully emptying began in 2016-17 and enables highest risk gullies to be emptied twice a year as opposed to once.

Title	Outline of Scheme/Activity/Action	Beneficiary of action	Enabling Yes/No	Additional £s or new work	Objectives, Outcome & Benefits
Briddicott Stream, Carhampton	The installation of a number of wooden silt traps in a number of sections of the Briddicott Stream would trap the sediment, silt and debris which would otherwise become in the area described above. This would help to mitigate some of the flood risk associated with this part of Carhampton. There are a number of other works being carried out on and around the area which this will bolster. There are two areas in particular which have been identified to place the wooden silt traps without impacting on any other planned works in this area.	WSC	No	New work	The proposed bid is to mitigate/address the issue of silt and sediment being pushed downstream and causing pinch-points. The pinch-points push water onto the main highway which causes transportation delays for businesses and build-up of traffic. It pushes car users on to tight country lanes. Then there is the more important issue of water being pushed into dwellings. Two distinct areas have been identified which would lend themselves to wooden silt traps which are easy to maintain. The traps would slow and even stop debris being pushed into the pinch-points especially blocking the stream at the bridge over the main A39 Highway. Furthermore, there are a number of partnership schemes being planned to slow the flow further up the catchment area such as leaky dams. This can only enhance this work. There is also the chance for community engagement with the maintenance of the silt traps where necessary.
Dodham Brook, Yeovil, enhancement scheme	The proposal aims to investigate the feasibility, optimal location, design requirements and potential benefits of flood attenuation measures, and deliver the appropriate scheme as part of a SuDS on the northern and western sections of the Dodham Brook from the source to Preston Road and at Century Park.	SSDC	No	Extra £s	Demonstration of how NFM can be employed in an urban catchment. Fully developed NFM proposals and design along 2km stretch of Dodham Brook and implementation of the first schemes to slow the flow of water moving through the Dodham Brook towards the Yeo. Project will also identify opportunities downstream towards the confluence with the Yeo.
Somerset SuDS Developer Guide	The production of a Somerset-specific supplementary planning guidance document to supplement the West of England Sustainable Drainage Guide for Developers (known as Section 1; the Somerset-specific document will be Section 2). To incorporate specific requirements from all partners involved in the planning process. The guidance will be adopted by Somerset's local planning authorities.	County	Yes	New work	A Somerset-specific SuDS guide will provide developers with a clear steer on what the local planning authorities and consultees involved in water management require for the drainage aspects of new developments in our county. It will highlight the unique characteristics across Somerset that will need to be considered when developing drainage strategies for new development. This will include the differing types of flood risk in the county, for example the contrasting flooding experienced on the Somerset Levels and Moors and the rapid response catchments of West Somerset. The guide will help ensure SuDS achieve multiple benefits (environmental, biodiversity, water quality, amenity and green space), beyond just managing water volumes and rates of discharge. As a jointly developed document, it will allow all of our requirements to be clearly set out for developers in one document so they can be considered and addressed at the early stages of development.
West Sedge Moor & Aller Moor Viewed Rhynes Enhanced Maintenance	Carrying out maintenance of all viewed rhynes in West Sedgemoor and Aller Moor on an annual rather than biennial basis.	TDBC/SDC	No	Extra £s	This work ensures that floodwater is carried away more effectively from flooded and flood-prone areas to outfalls and pumping stations and so reduces the frequency and severity of flooding. In West Sedgemoor and Aller Moor, roads, houses and farm businesses benefit from this reduced flood risk. In addition, West Sedgemoor is a SSSI/SPA and its character depends on the ability to manage water levels in accordance with its agreed Water Level Management Plan.
Countywide de-silting of Structures	One-off de-silting and channel realignment works adjacent to existing highways structures to improve watercourse flow characteristics and capacity, reducing flooding potential for land and properties upstream of the individual sites. Individual sites are identified from highways record, public or stakeholder agency request.	County	No	Extra £s	Silting-up is a problem because it can cause flooding and damage to bridges and culverts. De-silting increases the flow of water and reduces the risk of structural damage caused by pressure, or by floating debris colliding and getting stuck. It also cuts the risk of flooding on roads and in nearby properties. De-silting will also reduce the risk of motorists becoming stuck and requiring resource to rescue them, making inappropriate manoeuvres on the highway, wasted journeys, increased traffic on other roads and highways emergency callouts. De-silting also removes water course "bottle necks" allowing the whole system to work more efficiently. SRA funding is required as de-silting is not done as a routine operation by SCC.
Countywide targeted 'edge of road' clearing	Mechanical brushing of the carriageway will be targeted at flood susceptible locations. Flood susceptible sites are categorised as aligning to one or more of the following criteria: <ul style="list-style-type: none"> • Located within the defined county flood zone • Aligns with an annual gully round location • Coincides with an Enhanced Gully Emptying and/or Enhanced Jetting location The mechanical road sweeping process involves a soft brush to remove the excess leaf matter followed by the use of a metal brush to remove surface debris and detritus from the carriageway channel lines so as to expose the full width of the carriageway surface, kerb lines if present and existing highway drainage assets.	County	No	New work	The effectiveness of highway drainage systems is severely impeded by the accumulation of debris and detritus, with resulting localised flooding. Brushing road edges at targeted locations offers safety benefits to highway-users as well as preventing future clogging of highway drains. Road sweeping in rural areas began in 2016-17, funded by the SRA.

Title	Outline of Scheme/Activity/Action	Beneficiary of action	Enabling Yes/No	Additional £s or new work	Objectives, Outcome & Benefits
Stogursey and Shurton Highway Flood Relief	The scheme covers both Stogursey and Shurton and forms an effective package of civil engineering works to improve surface water management and reduce the likelihood of flooding. The intention is to undertake local raising of the carriageway by laying extra layers of bitmac and for the parish council to support landowners to fulfil their obligations. Site 1 is between Water Farm and Little Water Farm on Water Lane. Site 2 is Newnham Bridge on Shurton Road.	WSC	No	New work	Two sections of highway at Stogursey and Shurton are susceptible to flooding and this can cut off the communities between the two locations. Some properties are at risk of flooding. Both locations are part of the emergency evacuation route for incidents at Hinkley Point, particularly if the C182 is unavailable. Both sites suffer surface water flooding as a consequence of their low level and, at Stogursey, of an obstructed water channel. The civil engineering schemes will undertake localised raising of the carriageway by laying extra layers of bitmac at each location with associated edge support where appropriate to lift the road out of the flood water. The parish council will work with landowners to fulfil their obligations in clearing water courses to reduce the level of flooding.
River Avill Flood Relief Channel	Expansion joints along the flood relief channel will be replaced to ensure asset integrity and continued protection of the A39 and village of Dunster.	WSC	No	New work	Objectives: To extend the design life of a flood alleviation channel by carry-out repairs to concrete joints and ensuring the channel can function as per its original design Outcomes: Ensure the asset can effectively reduce the risk of flooding to the A39 and the village of Dunster Benefits: The repairs will provide confidence that the flood alleviation channel will continue to function as per its original design. The amount of maintenance that is needed to safeguard the asset following repairs will be reduced.
Beckington surface and foul water investigation	A detailed investigation into the Catchment runoff and Land Management Practices; Review of all existing information and surveys carried out to date; Additional investigations and walkover surveys carried out in areas where data is missing; Assessment of flow routes and capacity of the existing system; Identification of flood risk issues and a review of the options to mitigate these. This will culminate in an Options Appraisal Report to inform a future funding application.	MDC	No	New work	This project will identify the key flood risk issues within Beckington and the options to mitigate these. The flooding issues have been ongoing for some time (both properties and roads are affected). A thorough investigation will give confidence to the community with benefits to the road through the village and therefore the local businesses. There is huge public support for this project as this has been an on-going issue for the people of Beckington with multiple agencies involved.
Hill Lane, Carhampton	Better and more adequate drainage to replace pipe through property with one of larger diameter and extend the open pipe which will reach to beyond the property.	WSC	No	New work	The proposed bid is to mitigate surface water run-off onto land and dwellings. The inadequate drainage will be replaced. It is also envisaged there will be manageable amounts of water being pushed into main drainage infrastructure rather than onto the main A39 Highway which causes much disruption to transportation.
Culvert inspections and remedial works in IDB areas	Deliver maintenance to high priority culverts which cross public highways and, focussed on problem areas, repair/remove blockages, increase capacity where appropriate or replace life expired structures. Continue periodic inspections to proactively identify future deterioration of these assets.	County	No	New work	To improve the conveyance of water and flood risk management by making necessary improvements (irrespective of ownership where responsibilities are unclear). Culverts are all vulnerable to potential blockages from debris and vegetation and many were not designed to accommodate the structural loading of modern traffic. There is significant potential for water flow capability to be lost, either by blockage or collapse, and this results in local flooding and traffic disruption. This programme prioritises the most vulnerable and strategically important culverts for preventative maintenance and repair/replacement to avoid disruptive unplanned reactive maintenance.
Bratton storage pond	It is proposed the storage pond would be dredged and given greater capacity to support surface water run-off. In effect, it will become a large attenuation pond. Clearance of the channel would also mitigate flood risk to a more acceptable level.	WSC	No	New work	The proposed bid is to mitigate excessive amounts of surface water run-off causing issues to the centre of Minehead. By debris clearance, siltation and vegetation removal the flows to the stream will not be impeded (flows being impeded causes pinch-points which pool water on highways and areas close to shops and dwellings). Dredging and removing the sediment and silt from the storage pond will increase capacity so that water can be released more slowly into the stream, thereby mitigating the risk of flooding. There are opportunities for partnership working with other authorities and engaging the local community with the proposal. Already, the submission of this proposed scheme has produced offers of help and engagement within the community and Minehead Town Council; this is very positive.
Additional De-Silting / Dredging in Axe/Brue catchment	Removal of silt from smaller main river channels and viewed rhynes in Axe-Brue catchment identified at workforce workshop in 2014.	MDC/SDC	No	Extra £s	To carry floodwater away from flooded and flood-prone areas and deliver it to pumping stations and outfalls more quickly. This will reduce the frequency, duration and overall severity of flooding in the Axe-Brue catchment.

Title	Outline of Scheme/Activity/Action	Beneficiary of action	Enabling Yes/No	Additional £s or new work	Objectives, Outcome & Benefits
Sponge EU project 2018-19	This activity seeks to retrofit SuDS into retail parking/industrial estate in the Tone and/or Parrett catchments to show what can be achieved in the urban area. The selection of sites will be undertaken using innovative ecosystem services mapping to identify areas where multi-benefit SuDS can have the greatest impact. This information will be used to engage with individuals and groups in the area to develop and deliver SuDS.	TDBC	Yes	New work	The objective is to raise awareness of the steps owners of large impermeable areas can take to reduce runoff and hence flooding. A SuDS retrofit to create showcase schemes will be undertaken at a variety of sites to demonstrate the environmental and flood risk benefits that can be achieved. The project aims to have wide influence through the county and beyond.
Tootle Bridge & Catsam flood risk reduction investigation	Develop the preferred option through outline design, cost the option and carry out survey, assessment and consultation to fully understand risks, constraints and issues and plan mitigation. Develop detailed works proposal, investigate other funding sources and programme for future grant proposal.	MDC/SS DC	Yes	New work	Objective: develop a detailed works proposal to improve flood risk for homes, businesses, highway, land and infrastructure in the local community that currently experiences frequent flooding Outcome & benefits: the ability to optimise funding opportunities/contributions that would enable works delivery
Building Local Resilience	A suite of projects to build local resilience. Includes: continuation of work with targeted communities; new activities to encourage increased participation in resilience; new activities to identify and support vulnerable people or people who would be more vulnerable due to flooding; new partnership project with Wessex Water.	County	No	Extra £s	Objective: to increase resilience to flooding for families, agriculture, business, communities & wildlife Outcomes & benefits: - Residents, communities and businesses better informed and equipped to take action to protect themselves against the impacts of flooding and to recover more quickly after flooding events - All the Somerset stakeholders: residents, businesses, representatives for the agriculture and wildlife interests, public and voluntary sector organisations able to have informed discussions leading to a shared vision for Somerset in terms of flooding and water management issues, taking into account short, medium and longer term adaptation and sustainability considerations
Flood Alert Systems - maintenance	Annual maintenance charges and costs agreed by the SRA Board in October 2017, associated with the SRA-funded installation of three fully automated solar powered detection systems at Mudford on the A359, Wrantage on the A378 and Oake Road, Bradford on Tone. These Flood Alert systems are designed to be activated when carriageway flooding reaches a predetermined level. Annual charges and costs include software licenses, SIM card costs, fitting and inspections.	TDBC/SSDC	Yes	New work	The trial of this system at the three sites will enable Somerset County Council's Highways department to identify the best way to use the system, when pre-determined water levels are reached, to provide appropriate notifications to organisations and communities as well as warning signage on the road. Such a system could significantly reduce the risk of vehicle damage or personal injury, particularly when it is dark. Annual maintenance charges and costs need to be funded by the SRA as without this, the installed equipment will not work and a decommissioning cost would be incurred. It was agreed at the October 2017 SRA Board meeting that these charges would be covered annually.